



Billing Code 4333-15

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS-R1-ES-2019-N071; FXES11130100000-190-FF01E00000]

Endangered and Threatened Wildlife and Plants; Draft Kauai Islandwide Recovery Plan

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of document availability for review and public comment.

SUMMARY: We, the U.S. Fish and Wildlife Service, announce the availability of the Draft Kauai Islandwide Recovery Plan under the Endangered Species Act. This draft recovery plan addresses 175 listed species occurring on the island of Kauai, Hawaii, 111 of which are endemic to Kauai. The draft recovery plan includes specific goals, objectives, and criteria that should be met to remove the Kauai endemic species from the Federal List of Endangered and Threatened Wildlife and Plants. For the listed species that occur on multiple Hawaiian islands, the draft recovery plan describes those actions

specific to Kauai; complete recovery actions and recovery criteria for these species will be covered in a subsequent multi-island recovery plan. We request review and comment on this draft recovery plan from local, State, and Federal agencies and the public. We will also accept any new information on the species' status throughout their range.

DATES: In order to be considered, comments on the draft recovery plan must be received on or before [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. However, we will accept information about any species at any time.

ADDRESSES: An electronic copy of the draft recovery plan is available at our website at <http://www.fws.gov/endangered/species/recovery-plans.html> and <http://www.fws.gov/pacific/ecoservices/endangered/recovery/plans.html>. If you wish to comment on the plan, you may submit your comments in writing by any one of the following methods:

(1) You may submit written comments and materials to Field Supervisor, Pacific Islands Fish and Wildlife Office, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 3122, Honolulu, HI 96850.

(2) You may submit written comments to our Pacific Islands Fish and Wildlife Office by fax at (808)792-9581.

(3) You may send comments by email to gregory_koob@fws.gov.

For additional information about submitting comments, see the “Request for Public Comments” section below.

FOR FURTHER INFORMATION CONTACT: Gregory Koob, Deputy Field Supervisor, by mail at the above Honolulu address, or by telephone at (808)792–9400. Individuals who are hearing impaired may call the Federal Relay Service at 800-877-8339 for TTY assistance.

SUPPLEMENTARY INFORMATION: We, the U.S. Fish and Wildlife Service, announce the availability of the Draft Kauai Islandwide Recovery Plan under the Endangered Species Act (Act; 16 U.S.C. 1531 *et seq.*). This draft recovery plan addresses 175 listed species occurring on the island of Kauai, Hawaii, 111 of which are endemic to Kauai. The draft recovery plan includes specific goals, objectives, and criteria that should be met to remove the Kauai endemic species from the Federal List of Endangered and Threatened Wildlife and Plants. For the listed species that occur on multiple Hawaiian islands, the draft recovery plan describes those actions specific to Kauai; complete recovery actions and recovery criteria for these species will be covered in a subsequent multi-island recovery plan. We request review and comment on this draft recovery plan from local, State, and Federal agencies and the public. We will also accept any new information on any species’ status throughout its range.

Background

Recovery of endangered or threatened animals and plants to the point where they are again secure, self-sustaining members of their ecosystems is a primary goal of our endangered species program and the Act (16 U.S.C. 1531 *et seq.*). Recovery means improvement of the status of listed species to the point at which listing is no longer appropriate under the criteria set out in section 4(a)(1) of the Act. The Act requires the development of recovery plans for listed species, unless such a plan would not promote the conservation of a particular species.

Species Addressed in Recovery Plan

This draft recovery plan addresses 175 species, as listed in the table below. Many of these species have been addressed previously in earlier recovery plans; this plan will update and supersede the Kauai-specific actions in those documents, and is intended to provide a single unified reference for the recovery of all listed species on Kauai.

Scientific Name	Common Name	Listing Status	Kauai Endemic	Most Recent Recovery Plan
PLANTS				
<i>Acaena exigua</i>	Liliwai	Endangered	No	D
<i>Achyranthes mutica</i>	No common name	Endangered	No	A
<i>Adenophorus periens</i>	Fern, pendant kihi	Endangered	No	A
<i>Alectryon macrococcus</i>	Mahoe	Endangered	No	D
<i>Asplenium dielirectum</i>	Diellia, asplenium-leaved	Endangered	No	A
<i>Asplenium dielmannii</i> [= <i>Diellia mannii</i>]	No common name	Endangered	Yes	---
<i>Asplenium dielpallidum</i> [= <i>Diellia pallida</i>]	No common name	Endangered	Yes	E
<i>Astelia waialealae</i>	Painiu	Endangered	Yes	---
<i>Bonamia menziesii</i>	No common name	Endangered	No	A
<i>Brighamia insignis</i>	Olulu	Endangered	No	E
<i>Canavalia napaliensis</i>	Awikiwiki	Endangered	Yes	---

<i>Canavalia pubescens</i>	Awikiwiki	Endangered	No	---
<i>Charpentiera densiflora</i>	Papala	Endangered	Yes	---
<i>Ctenitis squamigera</i>	Pauoa	Endangered	No	C
<i>Cyanea asarifolia</i>	Haha	Endangered	Yes	E
<i>Cyanea dolichopoda</i>	Haha	Endangered	Yes	---
<i>Cyanea eleeleensis</i>	Haha	Endangered	Yes	---
<i>Cyanea kolekoleensis</i>	Haha	Endangered	Yes	---
<i>Cyanea kuuhihewa</i>	Haiwale	Endangered	Yes	---
<i>Cyanea recta</i>	Haha	Threatened	Yes	F
<i>Cyanea remyi</i>	Haha	Endangered	Yes	F
<i>Cyanea undulata</i>	No common name	Endangered	Yes	G
<i>Cyperus pennatifloris</i>	No common name	Endangered	No	A
<i>Cyperus trachysanthos</i>	Puukaa	Endangered	No	A
<i>Cyrtandra cyaneoides</i>	Mapele	Endangered	Yes	F
<i>Cyrtandra limahuliensis</i>	Haiwale	Threatened	Yes	E
<i>Cyrtandra oenobarba</i>	Haiwale	Endangered	Yes	---
<i>Cyrtandra paliku</i>	Haiwale	Endangered	Yes	---
<i>Delissea rhytidosperra</i>	No common name	Endangered	No	E
<i>Delissea rivularis</i>	Oha	Endangered	Yes	F
<i>Diplazium molokaiense</i>	No common name	Endangered	No	C
<i>Doryopteris angelica</i>	No common name	Endangered	Yes	---
<i>Dryopteris crinalis</i> var. <i>podosorus</i>	Palapalai aumakua	Endangered	Yes	---
<i>Dubautia imbricata</i> subsp. <i>imbricata</i>	Naenae	Endangered	Yes	---
<i>Dubautia kalalauensis</i>	Naenae	Endangered	Yes	---
<i>Dubautia kenwoodii</i>	Naenae	Endangered	Yes	---
<i>Dubautia latifolia</i>	Koholapehu	Endangered	Yes	E
<i>Dubautia pauciflorula</i>	Naenae	Endangered	Yes	G
<i>Dubautia plantaginea</i> subsp. <i>magnifolia</i>	Naenae	Endangered	Yes	---
<i>Dubautia waialealae</i>	Naenae	Endangered	Yes	---
<i>Euphorbia eleanoriae</i> [= <i>Chamaesyce eleanoriae</i>]	Akoko	Endangered	Yes	---
<i>Euphorbia haeleeeleana</i>	Akoko	Endangered	No	A
<i>Euphorbia halemanui</i> [= <i>Chamaesyce halemanui</i>]	Akoko	Endangered	Yes	E
<i>Euphorbia remyi</i> var. <i>kauaiensis</i> [= <i>Chamaesyce remyi</i> var. <i>kauaiensis</i>]	Akoko	Endangered	Yes	---
<i>Euphorbia remyi</i> var. <i>remyi</i> [= <i>Chamaesyce remyi</i> var. <i>remyii</i>]	Akoko	Endangered	Yes	---

<i>Exocarpos luteolus</i>	Heau	Endangered	Yes	E
<i>Flueggea neowawraea</i>	Mehamehame	Endangered	No	A
<i>Gardenia remyi</i>	Nanu	Endangered	No	---
<i>Geranium kauaiense</i>	Nohoanu	Endangered	Yes	---
<i>Gouania meyenii</i>	No common name	Endangered	No	H
<i>Haplostachys haplostachya</i>	No common name	Endangered	No	I
<i>Hesperomannia lydgatei</i>	No common name	Endangered	Yes	G
<i>Hibiscadelphus distans</i>	Kauai hau kuahiwi	Endangered	Yes	J
<i>Hibiscadelphus woodii</i>	Hau kuahiwi	Endangered	Yes	F
<i>Hibiscus brackenridgei</i>	Mao hau hele, (=native yellow hibiscus)	Endangered	No	A
<i>Hibiscus clayi</i>	Clay's hibiscus	Endangered	Yes	E
<i>Hibiscus waimeae</i> subsp. <i>hannerae</i>	Kokio keokeo	Endangered	Yes	F
<i>Huperzia mannii</i>	Wawaeiole	Endangered	No	D
<i>Huperzia nutans</i>	Wawaeiole	Endangered	No	H
<i>Ischaemum byrone</i>	Hilo ischaemum	Endangered	No	K
<i>Isodendron laurifolium</i>	Aupaka	Endangered	No	A
<i>Isodendron longifolium</i>	Aupaka	Threatened	No	A
<i>Joinvillea ascendens</i> subsp. <i>ascendens</i>	Ohe	Endangered	No	---
<i>Kadua cookiana</i> [= <i>Hedyotis cookiana</i>]	Awiiwi	Endangered	No	E
<i>Kadua fluviatilis</i> [= <i>Hedyotis fluviatilis</i>]	Kamapuaa	Endangered	No	---
<i>Kadua st.-johnii</i> [= <i>Hedyotis st.-johnii</i>]	No common name	Endangered	Yes	E
<i>Kanaloa kahoowawensis</i>	Kohe malama malama o kanaloa	Endangered	No	B
<i>Keysseria erici</i>	No common name	Endangered	Yes	---
<i>Keysseria helenae</i>	No common name	Endangered	Yes	---
<i>Kokia kauaiensis</i>	Kokio	Endangered	Yes	F
<i>Labordia helleri</i>	Kamakahala	Endangered	Yes	---
<i>Labordia lydgatei</i>	Kamakahala	Endangered	Yes	G
<i>Labordia pumila</i>	Kamakahala	Endangered	Yes	---
<i>Labordia tinifolia</i> var. <i>wahiawaensis</i>	Kamakahala	Endangered	Yes	F
<i>Lipochaeta fauriei</i> [= <i>Melanthera fauriei</i>]	Nehe	Endangered	Yes	E
<i>Lipochaeta micrantha</i> [= <i>Melanthera micrantha</i>]	Nehe	Endangered	Yes	E
<i>Lipochaeta waimeaensis</i> [= <i>Melanthera</i>	Nehe	Endangered	Yes	E

<i>waimeensis</i>]				
<i>Lobelia niihauensis</i>	No common name	Endangered	No	H
<i>Lysimachia daphnoides</i>	Lehua makanoe	Endangered	Yes	---
<i>Lysimachia iniki</i>	No common name	Endangered	Yes	---
<i>Lysimachia pendens</i>	No common name	Endangered	Yes	---
<i>Lysimachia scopulensis</i>	No common name	Endangered	Yes	---
<i>Lysimachia venosa</i>	No common name	Endangered	Yes	---
<i>Melicope degeneri</i>	Alani	Endangered	Yes	---
<i>Melicope haupuensis</i>	Alani	Endangered	Yes	E
<i>Melicope knudsenii</i>	Alani	Endangered	No	E
<i>Melicope pallida</i>	Alani	Endangered	No	E
<i>Melicope paniculata</i>	Alani	Endangered	Yes	---
<i>Melicope puberula</i>	Alani	Endangered	Yes	---
<i>Melicope quadrangularis</i>	Alani	Endangered	Yes	E
<i>Mezoneuron kavaense</i>	Uhiuhi	Endangered	No	L
<i>Myrsine fosbergii</i>	Kolea	Endangered	No	---
<i>Myrsine knudsenii</i>	Kolea	Endangered	Yes	---
<i>Myrsine linearifolia</i>	Kolea	Threatened	Yes	F
<i>Myrsine mezii</i>	Kolea	Endangered	Yes	---
<i>Nothocestrum latifolium</i>	Aiea	Endangered	No	---
<i>Nothocestrum peltatum</i>	Aiea	Endangered	Yes	E
<i>Panicum niihauense</i>	Lauehu	Endangered	No	A
<i>Peucedanum sandwicense</i>	Makou	Threatened	No	E
<i>Phyllostegia knudsenii</i>	No common name	Endangered	Yes	F
<i>Phyllostegia renovans</i>	No common name	Endangered	Yes	---
<i>Phyllostegia waimeae</i>	No common name	Endangered	Yes	E
<i>Phyllostegia wawrana</i>	No common name	Endangered	Yes	F
<i>Pittosporum napaliense</i>	Hoawa	Endangered	Yes	---
<i>Plantago princeps</i>	Kuahiwi laukahi	Endangered	No	A
<i>Platanthera holochila</i>	No common name	Endangered	No	A
<i>Platydesma rostrata</i>	Pilokea laulii	Endangered	Yes	---
<i>Poa mannii</i>	Mann's bluegrass	Endangered	Yes	E
<i>Poa sandwicensis</i>	Hawaiian bluegrass	Endangered	Yes	E
<i>Poa siphonoglossa</i>	No common name	Endangered	Yes	E
<i>Polyscias bisattenuata</i> [= <i>Tetraplasandra</i> <i>bisattenuata</i>]	No common name	Endangered	Yes	---
<i>Polyscias flynnii</i> [= <i>Tetraplasandra flynnii</i>]	No common name	Endangered	Yes	---
<i>Polyscias racemosa</i> [= <i>Munroidendron</i> <i>racemosum</i>]	No common name	Endangered	Yes	E
<i>Pritchardia hardyi</i>	Loulu	Endangered	Yes	---
<i>Pritchardia napaliensis</i>	Loulu	Endangered	Yes	F
<i>Pritchardia viscosa</i>	Loulu	Endangered	Yes	F

<i>Psychotria grandiflora</i>	Kopiko	Endangered	Yes	---
<i>Psychotria hobdyi</i>	Kopiko	Endangered	Yes	---
<i>Pteralyxia kauaiensis</i>	Kaulu	Endangered	Yes	E
<i>Ranunculus mauiensis</i>	Makou	Endangered	No	---
<i>Remya kauaiensis</i>	No common name	Endangered	Yes	E
<i>Remya montgomeryi</i>	No common name	Endangered	Yes	E
<i>Scaevola coriacea</i>	Naupaka, dwarf	Endangered	No	D
<i>Schenkia sebaeoides</i>	Awiiwi	Endangered	No	A
<i>Schiedea apokremnos</i>	Maolioli	Endangered	Yes	E
<i>Schiedea attenuata</i>	No common name	Endangered	Yes	---
<i>Schiedea helleri</i>	No common name	Endangered	Yes	F
<i>Schiedea kauaiensis</i>	No common name	Endangered	Yes	F
<i>Schiedea lychnoides</i> [=Alsinidendron lychnoides]	Kuawawaenohu	Endangered	Yes	F
<i>Schiedea membranacea</i>	No common name	Endangered	Yes	F
<i>Schiedea nuttallii</i>	No common name	Endangered	No	A
<i>Schiedea spergulina</i> var. <i>leiopoda</i>	No common name	Endangered	Yes	E
<i>Schiedea spergulina</i> var. <i>spergulina</i>	No common name	Threatened	Yes	E
<i>Schiedea stellarioides</i>	Laulihilihi	Endangered	Yes	F
<i>Schiedea viscosa</i> [=Alsinidendron viscosum]	No common name	Endangered	Yes	F
<i>Sesbania tomentosa</i>	Ohai	Endangered	No	A
<i>Silene lanceolata</i>	No common name	Endangered	No	M
<i>Solanum incompletum</i>	Popolo ku mai	Endangered	No	A
<i>Solanum nelsonii</i>	Popolo	Endangered	No	---
<i>Solanum sandwicense</i>	Popolo aiakeakua	Endangered	No	E
<i>Spermolepis hawaiiensis</i>	No common name	Endangered	No	A
<i>Stenogyne campanulata</i>	No common name	Endangered	Yes	E
<i>Stenogyne kealiae</i>	No common name	Endangered	Yes	---
<i>Viola helenae</i>	No common name	Endangered	Yes	G
<i>Viola kauaiensis</i> var. <i>wahiawaensis</i>	Nani waialeale	Endangered	Yes	F
<i>Wilkesia hobdyi</i>	Dwarf iliau	Endangered	Yes	E
<i>Xylosma crenatum</i>	No common name	Endangered	Yes	E
<i>Zanthoxylum hawaiiense</i>	Ae	Endangered	No	K
INVERTEBRATES				
<i>Manduca blackburni</i>	Blackburn's sphinx moth	Endangered	No	N
<i>Drosophila musaphilia</i>	Hawaiian picture- wing fly	Endangered	Yes	---

<i>Drosophila sharpi</i>	Hawaiian picture-wing fly	Endangered	Yes	---
<i>Spelaeorchestia koloana</i>	Kauai cave amphipod	Endangered	Yes	O
<i>Adelocosa anops</i>	Kauai cave wolf spider	Endangered	Yes	O
<i>Erinna newcombi</i>	Newcomb's snail	Threatened	Yes	P
<i>Megalagrion xanthomelas</i>	Orangeblack Hawaiian damselfly	Endangered	No	---
<i>Megalagrion pacificum</i>	Pacific Hawaiian damselfly	Endangered	No	---
VERTEBRATES				
<i>Himantopus mexicanus knudseni</i>	Hawaiian stilt	Endangered	No	Q
<i>Oceanodroma castro</i>	Akeake, Band-rumped storm-petrel (Hawaii Distinct Population Segment)	Endangered	No	---
<i>Loxops caeruleirostris</i>	Akekee (honeycreeper)	Endangered	Yes	---
<i>Oreomystis bairdi</i>	Akikiki (honeycreeper)	Endangered	Yes	R*
<i>Fulica alai</i>	Alae keokeo, Hawaiian coot	Endangered	No	Q
<i>Gallinula galeata sandvicensis</i>	Alae ula, Hawaiian common gallinule	Endangered	No	Q
<i>Puffinus newelli</i>	Ao, Newell's shearwater	Endangered	No	S
<i>Chelonia mydas</i>	Green turtle	Threatened	No	T
<i>Myadestes myadestinus</i>	Kamao, large Kauai thrush	Endangered	Yes	R
<i>Akialoa stejnegeri</i>	Kauai akialoa	Endangered	Yes	R
<i>Hemignathus hanapepe</i>	Kauai nukupuu	Endangered	Yes	R
<i>Anas wyvilliana</i>	Koloa maoli, Hawaiian duck	Endangered	No	Q
<i>Anas laysanensis</i>	Laysan duck	Endangered	No	U
<i>Branta sandvicensis</i>	Nene, Hawaiian goose	Endangered	No	V
<i>Moho braccatus</i>	Oo aa, Kauai oo	Endangered	Yes	R
<i>Lasiurus cinereus semotus</i>	Opeapea, Hawaiian hoary bat	Endangered	No	W
<i>Psittirostra psittacea</i>	Ou	Endangered	No	R
<i>Myadestes palmeri</i>	Small Kauai thrush	Endangered	Yes	R
<i>Pterodroma sandwichensis</i>	Hawaiian petrel	Endangered	No	S

A: Recovery Plan for the Multi-Island Plants (FWS 1999)
 B: Addendum to the Recovery Plan for the Multi-Island Plants (FWS 2002)
 C: Final Recovery Plan for Four Species of Hawaiian Ferns (FWS 1998a)
 D: Recovery Plan for the Maui Plant Cluster (FWS 1997)
 E: Recovery Plan for the Kauai Plant Cluster (FWS 1995)
 F: Kauai II: Addendum to the Recovery Plan for the Kauai Plant Cluster (FWS 1998b)
 G: Recovery Plan for the Wahiawa Plant Cluster (FWS 1994)
 H: Recovery Plan for the Oahu Plants (FWS 1998c)
 I: Draft Recovery Plan for *Haplostachys haplostachya* and *Stenogyne angustifolia* (FWS 1993)
 J: Recovery Plan for *Hibiscadelphus distans* (FWS 1996a)
 K: Recovery Plan for the Big Island Plant Cluster (FWS 1996b)
 L: Recovery Plan for *Caesalpinia kavaiensis* and *Kokia drynarioides* (FWS 1994)
 M: Recovery plan for the Molokai Plant Cluster (FWS 1996c)
 N: Recovery Plan for Blackburn's Sphinx Moth (FWS 2005)
 O: Final Recovery Plan for the Kauai Cave Arthropods (FWS 2006a)
 P: Final Recovery Plan for Newcomb's Snail (FWS 2006b)
 Q: Recovery Plan for Hawaiian Waterbirds, Second Revision (FWS 2011)
 R: Revised Recovery Plan for Hawaiian Forest Birds (FWS 2006c)
 S: Hawaiian Dark-rumped Petrel and Newell's Manx Shearwater Recovery Plan (FWS 1983)
 T: Recovery Plan for U.S. Pacific Populations of the Green Turtle (NMFS and FWS 1998)
 U: Revised Recovery Plan for the Laysan Duck (FWS 2009)
 V: Draft Revised Recovery Plan for the Nene or Hawaiian Goose (FWS 2004)
 W: Recovery Plan for the Hawaiian Hoary Bat (FWS 1998d)
 *: Addressed only as candidate species.

Major threats to the various Kauai species addressed in this draft recovery plan include habitat degradation, predation and herbivory by nonnative mammals and invertebrates, disease spread by nonnative species, and competition with invasive nonnative plant species.

Recovery Plan Goals

The objective of a recovery plan is to provide a framework for the recovery of a listed species so that protection under the Act is no longer necessary. A recovery plan includes scientific information about the species and provides criteria and actions necessary for us to be able to reclassify the species or remove it from the Federal List of Endangered and Threatened Wildlife and Plants. Recovery plans help guide our recovery

efforts by describing actions we consider necessary for the species' conservation, and by estimating time and costs for implementing needed recovery measures.

The draft recovery plan recommends a combination of islandwide recovery actions (e.g., biosecurity), management of ecosystem-level threats within specific geographic management units, and species-specific recovery actions such as propagation and reintroduction.

Request for Public Comments

Section 4(f) of the Act requires us to provide public notice and an opportunity for public review and comment during recovery plan development. It is also our policy to request peer review of recovery plans (July 1, 1994; 59 FR 34270). In an appendix to the approved recovery plan, we will summarize and respond to the issues raised by the public and peer reviewers. Substantive comments may or may not result in changes to the recovery plan; comments regarding recovery plan implementation will be forwarded as appropriate to Federal or other entities so that they can be taken into account during the course of implementing recovery actions.

We request written comments on the draft recovery plan. Before we approve the plan, we will consider all comments we receive by the date specified in **DATES**.

Methods of submitting comments are described in **ADDRESSES**.

Public Availability of Comments

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority

The authority for this action is section 4(f) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Mary Abrams,

Acting Regional Director, U.S. Fish and Wildlife Service.

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